

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

LISTING OF CLAIMS:

Claims 1 to 80. (Canceled).

81. (Currently Amended) A multilayer structure, comprising:
alternating first and second layers, the first layer including an individual hard-material layer and the second layer including an individual carbon layer or an individual silicon layer, wherein:

the hard-material layers include ~~a metal~~, a metal carbide, a metal silicide, a metal carbo-silicide, a metal siliconitride, a metal carbide-containing carbon, or a metal silicide-containing silicon, and a mixture of at least two of ~~the metal~~, the metal carbide, the metal silicide, the metal carbo-silicide, the metal siliconitride, the metal carbide-containing carbon, and the metal silicide-containing silicon, and the metal includes chromium or niobium.

82. (Previously Presented) The multilayer structure according to claim 81, wherein:

the carbon layers include one of amorphous carbon containing hydrogen, amorphous hydrogen-free carbon, carbon containing silicon, and carbon containing a metal selected from hard B-group metals.

83. (Previously Presented) The multilayer structure according to claim 81, wherein:

the silicon layers include one of amorphous silicon containing hydrogen, amorphous hydrogen-free silicon, silicon containing carbon, and silicon containing metal.

84. (Previously Presented) The multilayer structure according to claim 81, wherein:

the hard material layers include at least one hard material layer,
the carbon layers include at least one carbon layer, and

the silicon layers include at least one silicon layer.

85. (Previously Presented) The multilayer structure according to claim 84, wherein:

the hard material layers include one hard material layer,
the carbon layers include one carbon layer, and
the silicon layers include one silicon layer.

86. (Previously Presented) The multilayer structure according to claim 81, wherein:

thicknesses of the hard material layers, the silicon layers, and the carbon layers are between approximately 1nm and approximately 10 nm.

87. (Previously Presented) The multilayer structure according to claim 81, wherein:

thicknesses of the hard material layers, the silicon layers, and the carbon layers are between approximately 2 nm and approximately 5 nm.

88. (Previously Presented) The multilayer structure according to claim 81, wherein:

an overall layer thickness of the multilayer structure is between approximately 1 μm and approximately 10 μm .

89. (Previously Presented) The multilayer structure according to claim 81, wherein:

an overall layer thickness of the multilayer structure is between approximately 1 μm and approximately 4 μm .

90. (Previously Presented) The multilayer structure according to claim 81, wherein:

the hard material layers include one of Me, MeC, MeSi, Me(CSi), and Me(SiN), and the carbon layers include one of a-C:H and a-C.

Claim 91. (Canceled).

92. (Previously Presented) The multilayer structure according to claim 81, wherein:

the hard material layers are made of MeC and the carbon layers are made of C-(MeC).

93. (Previously Presented) The multilayer structure according to claim 81, wherein:

the hard material layers include one of Me, MeC, MeN, MeSi, Me(CN), Me(CSi), and Me(SiN), and the silicon layers include one of a-Si:H or a-Si.

94. (Currently Amended) The multilayer structure according to claim 81, wherein: one of the hard material layers and the silicon layers contain at least one of silicon, boron, nitrogen, oxygen, ~~carbon~~, and a metal, and boron and carbon are not simultaneously present in the one of the hard material layers and the silicon layers.

95. (Previously Presented) The multilayer structure according to claim 81, wherein:

the multilayer structure is capable of coating one of a machining tool and a non-cutting shaping tool.

96. (New) The multilayer structure according to claim 81, wherein one of the hard material layers and the silicon layers contain at least one of silicon, nitrogen, oxygen, carbon, and a metal, and boron and carbon are not simultaneously present in the one of the hard material layers and the silicon layers.